

Claims

We claim:

- 5 1. A method for automatically validating text input, the method comprising:
 an application processing a markup language file, wherein the markup language
 file comprises a description of a graphical user interface (GUI), wherein the markup
 language file comprises a markup language tag for instantiating a validation manager
 component, wherein the description of the GUI comprises a description of a GUI element
10 enabled to receive text input;
 the application instantiating the validation manager component in response to said
 processing the markup language file;
 the application displaying the GUI on a display screen of a computer system in
 response to said processing the markup language file;
15 providing text input to the GUI element;
 the validation manager component receiving a programmatic event in response to
 said providing text input to the GUI element;
 the validation manager component determining whether the text input provided to
 the GUI element is valid text input in response to receiving the programmatic event;
20 the validation manager component indicating that the text input provided to the
 GUI element is invalid if the validation manager component determines that the text input
 is not valid.
2. The method of claim 1, wherein the description of the GUI element
25 enabled to receive text input comprises an attribute for specifying a type associated with
 the GUI element, the method further comprising:
 the validation manager component instantiating a validation component, wherein
 said instantiating a validation component comprises specifying the type associated with
 the GUI element;

wherein said validation manager component determining whether the text input provided to the GUI element is valid text input comprises the validation manager component calling the validation component;

wherein said validation manager component calling the validation component
5 comprises the validation manager component specifying the text input provided to the GUI element;

wherein the validation component is operable to return a result value to the validation manager component indicating whether the text input provided to the GUI element is valid text for the type associated with the GUI element.

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3. The method of claim 1,

wherein said providing text input to the GUI element comprises a user of the application providing text input to the GUI element.

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4. The method of claim 1,

wherein said providing text input to the GUI element comprises the application providing text input to the GUI element.

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5. The method of claim 1,

wherein the description of the GUI element enabled to receive text input comprises one or more attributes for specifying when text input to the GUI element should be validated;

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wherein the validation manager component is operable to validate text input to the GUI element in accordance with the one or more attributes specifying when text input to the GUI element should be validated.

6. The method of claim 5;

wherein each of the one or more attributes for specifying when text input to the GUI element should be validated corresponds to at least one type of programmatic event;

wherein said validation manager component receiving a programmatic event comprises the validation manager component ignoring the programmatic event if the programmatic event does not correspond to one of the attributes for specifying when text input to the GUI element should be validated.

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7. The method of claim 1,

wherein said providing text input to the GUI element comprises performing one of the actions from the group consisting of:

- changing the value of the GUI element,
- 10 pressing a key,
- releasing a key,
- causing the GUI element to gain user interface focus,
- causing the GUI element to lose user interface focus,
- moving a mouse pointer over the GUI element,
- 15 moving a mouse pointer away from the GUI element,
- clicking on the GUI element,
- double-clicking on the GUI element;

wherein said validation manager component receiving a programmatic event in response to said providing text input to the GUI element comprises the validation
20 manager component receiving a programmatic event corresponding to the action performed.

8. The method of claim 1,

wherein the markup language tag for instantiating the validation manager
25 component comprises one or more parameters for specifying the default behavior of when the validation manager component should validate text input for GUI elements described in the markup language file.

9. The method of claim 8,

wherein the description of the GUI element enabled to receive text input comprises one or more attributes for specifying when text input to the GUI element should be validated;

5 wherein the validation manager component is operable to override the default behavior and validate text input to the GUI element in accordance with the one or more attributes specifying when text input to the GUI element should be validated.

10. The method of claim 1,

10 wherein said validation manager component indicating that the text input provided to the GUI element is invalid comprises the validation manager requesting the application to alter the visual appearance of the GUI element.

11. The method of claim 1,

15 wherein said validation manager component indicating that the text input provided to the GUI element is invalid comprises the validation manager displaying an informational user interface window.

12. The method of claim 1,

20 wherein the description of the GUI element enabled to receive text input comprises one or more attributes for controlling text input validation for the GUI element;

wherein said application processing a markup language file comprises the application constructing a document object representing the markup language file;

25 wherein said application instantiating the validation manager component comprises the application passing a reference to the document object to the validation manager component;

wherein, in response to being instantiated by and receiving the reference to the document object from the application, the validation manager component is operable to

traverse the document object in order to discover the one or more attributes for controlling text input validation for the GUI element.

13. The method of claim 12,
5 wherein the one or more attributes for controlling text input validation for the GUI element include an attribute for specifying a type associated with the GUI element.

14. The method of claim 12,
wherein the one or more attributes for controlling text input validation for the GUI
10 element include one or more attributes for specifying when text input to the GUI element should be validated.

15. The method of claim 12,
wherein the one or more attributes for controlling text input validation for the GUI
15 element include one or more attributes for specifying how invalid text input for the GUI element should be indicated.

16. The method of claim 1,
wherein the validation manager component is a COM object.
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17. The method of claim 1,
wherein the validation manager component is a Java object.

18. The method of claim 1,
25 wherein the markup language is HTML.

19. The method of claim 2, wherein the type associated with the GUI element is a type from the group consisting of:

Coordination of Benefits (COB) code, Current Procedural Terminology (CPT) code, HCFA Common Procedure Coding System (HCPCS) code, International Classification of Diseases (ICD) code, U.S. Employer Information Number (EIN), U.S. Social Security Number, currency, U.S. states and territories, telephone number, zip code,
5 date, and boolean.

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